Wind Harvest

Logan Molyneux - DAILY HERALD Monday, October 15, 2007

ASHLEY FRANSCELL/ Daily Herald Wind turbines are stagnant near Camp Williams Thursday, October 11, 2007. The State Energy Program is studying how to harvest Utah's rich wind resources, many of which are in Utah County. But unless state lawmakers approve incentives for wind farms to be constructed here, no turbines will be going up.

Energy resources are blowing through Utah, but cannot be captured without state policy change

Blowing around Utah's many ridges and canyons is more than enough wind to meet the state's growing electricity needs, but it's not likely those resources will be harvested unless state energy policy changes.

A wind farm in Spanish Fork, which will be the first commercial wind project in the state when it is completed in 2008, has encountered such difficulty that renewable energy proponents are calling for new energy laws.

The Utah Renewable Energy Initiative Focus Group met Friday to finalize its proposal to the governor's Blue Ribbon Advisory Council to meet Utah's growing energy needs. The group recommended that power companies be required to provide a certain percentage of their electricity from renewable energy sources, including solar, wind and geothermal.

The group also recommended that the government use tax dollars to provide incentives for developers to build renewable energy projects in Utah. The recommendations will now be reviewed and further studied by the BRAC before any policy changes are made. Jason Berry of the State Energy Program said there's no telling how long the process could take. The state already offers a tax credit for renewable energy, but proponents would like it to be higher.

Richard Simon, a wind power consultant from V-Bar, LLC who is working with the State Energy Program, said sites for future wind farms are being considered near Milford, in west central Utah, and near Loa, in central Utah. The latest plans call for electricity generated in Milford to be sold to California.

The state has been interested in developing more renewable resources for years, which prompted the creation of the Renewable Energy Initiative. The turbines at Camp Williams were built to provide energy to the Utah Army National Guard camp, far from most residences. But the wind farm being constructed in Spanish Fork shows just how difficult it can be to place a wind farm near the homes that would use its electricity.

The project was first proposed in early 2006. It was scheduled to be operational earlier this year, but Tracy Livingston, president of Wasatch Wind, a wind power developer based in Heber City, said now it won't be finished until spring 2008.

The Spanish Fork project first had to overcome complaints about noise and a ruined view from nearby residents. The site was moved around and finally approved when the state government announced it would no longer provide an investment tax credit, only a production tax credit. Now Livingston says the company has had problems getting the right rotor blades for the turbines.

When the project is completed, it will have a capacity of about 19 mega watts, enough to power about a fifth of Utah County's homes. The energy will go into the larger Rocky Mountain Power grid. It would increase the total energy output in Utah by less than half of one percent. It may be a drop in the bucket, but if the Spanish Fork project proves successful, it could attract other wind developers to the state.

Once a wind farm is built, both the utilities and area customers benefit from low-cost, low-maintenance, renewable energy. But the start-up costs -- to survey the area to

determine a location and then build the turbines -- are what keep wind farms from going up in the first place.

Part of the solution could be legislation that would give larger state tax credits to developers of wind farms to help offset the initial costs. Utah currently offers a tax credit of 0.35 cents per kilowatt hour of electricity produced by large-scale wind farms (such as the one being built near Spanish Fork Canyon) and other lump-sum tax credits for smaller, residential projects. Wind proponents suggest that a credit of 2 cents per kilowatt hour for large farms would be more likely to attract wind power developers to the state.

The state would pay such a credit because it values the economic and job benefits created by wind farms, particularly in rural communities, Livingston said. In addition to lower electricity costs, a turbine placed on a farmer's land, for example, means rent money for the farmer, increased property tax for the city or county, temporary construction jobs and a few permanent maintenance job positions.

"It's not just the environmental wackos that want renewable sources," Simon said. "We're finding that there's some solid economics behind it. It's actually a very profitable venture. It's not just, 'Hey let's be green and feel good,' it's more than that."

But the challenges to wind power aren't only economical. Phil Dougherty, national director of the Wind Powering America Program, said one study ranked Utah's wind 26th in the nation, but that doesn't mean all that wind can be reasonably harvested.

Turning Utah's wind into usable electricity means building new power transmission lines and turbines taller than any building in Utah County. Construction can be especially challenging because some of the best wind resources in the state are found on ridge tops or in remote areas. Opponents also worry about obstructed views and birds colliding with the turbine blades.

Wind projects are heavy on short-term cons, but renewable energy proponents say wind farms make lots of sense in the long run. Livingston points out that the price of wind resources doesn't fluctuate like the price of coal or oil.

"Wind plants will make energy price contracts for 20 years at a time," Livingston said, "but there's no way a coal mine owner would lock in a price for 20 years. The prices fluctuate too much. So in order to compare the cost of wind to fossil fuels, you'd have to predict coal prices 15 or 20 years in the future. That's nearly impossible. So then it looks good to invest in wind energy early."

Almost 95 percent of Utah's electricity comes from coal-fired power plants. Utah's supply of coal will eventually run out or become too expensive as mining operations consider new safety precautions. Sarah Wright, director of Utah Clean Energy, a nonprofit organization promoting renewable energy, said the state won't be closing the coal plants any time soon, but is looking to add new sources of energy as fast as possible.

"The old way is that you use lots of coal and some natural gas," Wright said. "Now you want to diversify so you don't have all your resources coming from any one technology, which makes your energy portfolio more nimble."

How wind power works

Utah's mountains help create wind by funneling cooling air through canyons. In the case of Spanish Fork Canyon, air cools at night and is squeezed through the opening of the canyon as it sinks, creating winds consistently above 20 mph at night.

Winds turn enormous rotor blades, like a pinwheel, which turn a generator to produce electricity. For now, electricity is only produced when the blades are rotating, but new technologies involving batteries and even compressed air may be used in the future to store wind power for when it is needed.